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ABSTRACT

Described is the Psychoeducational Agency/School System (PASS) Model Project which is providing full or partial services to approximately 152 learning disabled (LD) elementary school children. It is explained that the project involves planning, implementing, and evaluating a replicable delivery system of resource and special class services relating to children and their families, psychoeducational personnel, and research and development. Described are project objectives including revising the referral and assessment process within the school system, improving the self concepts of the PASS children, developing staff professionals to serve as better behavioral change agents, and offering a fully developed and evaluated model approach to LD applicable in a wide variety of communities. The project is seen to utilize the facilities of a community-oriented psychoeducational agency, a school system using diagnostic and prescriptive methods, and a coordination mechanism linking the two systems. Initial data are provided showing that LD children in the project perform lower in verbal than performance skills, function intellectually somewhat lower than the norm, possess a relatively normal self concept, and perform significantly higher in math than in reading. Also noted is a replication and dissemination strategy involving the production of educational products for administrators, psychoeducational personnel, and parents. (DB)

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The PASS Model Project: Development, Evaluation, and Dissemination of a Service Delivery System for Learning Disabilities

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The PASS Model Project: Development, Evaluation, and Dissemination of a Service Delivery System for Learning Disabilities

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The PASS Model Project is a research and development (R&D) effort funded by the United States Office of Education, Bureau for Education of the Handicapped. It involves the Peabody Child Study Center (CSC), a psychoeducational agency, and the Metropolitan Nashville Public Schools, a major American school system. The PASS acronym emerges from combining the first letters of the words in the phrase "psychoeducational agency/school system," and it expresses a major project object, viz., to demonstrate how agency and school system resources may be combined in an integrated service delivery system.

In broad overview the goal of PASS is to plan, implement, and evaluate a replicable service delivery system to enhance the development of learning disabled (LD) children and their families. PASS objectives are as follows: (1) the utilization of psychoeducational resources to achieve a better fit between LD children and their major social systems (the school and the family); (2) the enhancement of professional functioning for the psychoeducational personnel involved in the project enabling

them to better serve as behavioral change agents for LD children and their families; and (3) the development and evaluation of a model approach to LD for application in a wide variety of communities. The strategies used to accomplish objectives include: (1) utilization of an ecological model which views problem or handicapping behavior as a question of fit between children's competencies and the demands of various socialization systems; (2) application of some of the service delivery strategies associated with the ecological model, specifically liaison and systems oriented intervention teams; (3) development of a systematic and comprehensive diagnostic-prescriptive approach to appraisal and intervention; (4) incorporation of the three above strategies in a model which involves a working relationship between a psycho-educational agency (such as the Peabody CSC) and a school system (such as the Metropolitan Nashville Public Schools); and (5) utilization of the dissemination experience developed over the years by the Demonstration and Research Center for Early Education (DARCEE) and other Peabody programs to fully develop and export the model program. Some of the specific service delivery activities in PASS include: (1) extending past Peabody-Metro Schools collaborative efforts; (2) utilizing the CSC's diagnostic-prescriptive approach to LD and extending it into classroom operation; (3) developing further

the CSC's liaison program for the families of LD children and the specific schools participating in the project; and (4) utilizing the Metro Pupil Personnel Services Teams to bridge the gap between the CSC and the PASS classrooms and to maximize the effect of programs developed for the LD children and their families. As detailed in a subsequent section, extensive formative and summative evaluation, as well as other R & D activities, are important features of PASS.

Theoretical Background and Operational Parameters

Planned educational interventions must be well grounded in theory. The PASS Model is an intervention approach which combines three theoretical perspectives: (1) behavioral ecological theory (e.g., Hobbs, 1975), (2) transactional theory (Dewey & Bentley, 1949), and (3) developmental theory (e.g., Kohlberg & Mayer, 1972).

Related to the general PASS approach Dokecki and Strain (1973) have commented regarding educational intervention as follows:

> We do not see psychological development and competent functioning... as natural, normal, automatic, or usual processes; rather, they are continuing achievements. Cognitive, social, and emotional development and the process of fostering this development are viewed as tasks to be mastered, albeit executed differently between and often

> within members of different racial, cultural, and ethnic groups. These tasks currently require significant personal and environmental resources; they will be even more demanding in the future... Given this view of the human condition, intervention programs can be seen as attempts to develop instrumentalities to assist in actualizing the rights of children in a free society by maximizing the human development and competence of young children and their families. These instrumentalities may involve new strategies or social structures requiring importation if various professionals..., or tney may involve rearranging already existing resources in an ecological recycling fashion (p. 177).

The PASS Model involves both "new strategies or social structures" and "rearranging already existing resources" in that it brings together a community-oriented psychoeducational agency and a school system operating in altered and innovative ways.

Behavioral ecological theory as applied in the PASS Model is an extension of ideas developed at Peabody by Nicholas Hobbs and others in Project Re-Ed (e.g., Hobbs, 1966) and recently extended in the Hobbs directed Project on the Classification of Exceptional Children (Hobbs, 1975). Regarding LD, the most profitable way of conceptualizing the phenomenon for intervention purposes is as a problem of fit (or match)

between a child's behavioral competencies and the demands of key socializing institutions, in this case the school and the family.

Transactionalism is an approach to knowledge developed by John Dewey (see Dewey & Bentley, 1949) which complements ecological theory. In education Jacob Getzels (1969) has presented a useful transactional model about which Dokecki, Scanlan, and Strain (1972) have commented:

> Getzels sees education as involving four interrelated and transactionally related vectors or subsystems: the school and its expectations, the child and his traits or dispositions, the broader community with its political, economic, and social values, and the narrower community with its local and ethnic values. It seems to us that harmonizing these four perspectives should be the goal of educational intervention programs...Just as the implementation of compensatory education failed to fit all children into institutional expectations, so will any solution fail which acts exclusively on any subaspect of the Getzels' system without dealing with the entire system (p. 186).

As in the ecological position, therefore, the transactional view cautions against viewing problems such as LD as belonging exclusively to the child and implies that exclusively child-oriented interventions will be inadequate.

Developmental theory as applied to education is best summarized by the title of a recent Harvard Educational Review article: "Development as the Aim of Education" (Kohlberg & Mayer, 1972). In the PASS Model, the task in dealing with an LD child is to understand the transactions between the child's competencies and environmental demands as they have influenced development. Prescriptive psychoeducational programming takes developmental level into account and the goal is to enhance cognitive and affective development through working with the child and the key people in his or her world. An orderly sequence of development is assumed to occur when the environment presents appropriate and manageable challenges to the child and the significant others.

In addition to the theoretical base, intervention should be well grounded in practical reality. In planning the PASS Model we have attempted not only to develop a service delivery system which will have demonstrable effects at the R & D site, a feat which itself requires a certain amount of attention to local realities, but also to develop a replicable model with external validity for a variety of communities.

The PASS Model has three service delivery components: (1) a psychoeducational agency, (2) a school system, and (3) a mechanism for coordinating the agency and the schools to better serve LD children.

The Peabody CSC is quite similar to other psychoeducational agencies around the country in its basic service aspects. It utilizes interdisciplinary teams to appraise and intervene with regard to exceptional children and their families. It is compatible with the agency's functioning to work on a cooperative basis with a local school system. While federal funding may be required at the outset to make operational an experimental approach such as PASS, if the project has demonstrable success, there is every reason to believe that local funds can be deployed to continue operation.

There are several administrative options for possible future program operation beyond the immediate R & D situation, both locally and regarding dissemination. One would involve a contractual arrangement between an agency and a school system. Another might involve community support of the cooperative relationship through the United Way or some such mechanism. Finally, a school system might attempt to develop a PASS-like structure within the system itself.

The PASS Model commits the school system to careful identification of LD children, provision of a diagnostic-prescriptive program for them, and recognition that both the school and family systems are relevant to LD. It is our view that such demands are reasonable from both cost and professional perspectives, especially if LD program effects can be increased.

The third PASS component, the coordination mechanism, while somewhat new, is not prohibitive in cost or in demand on professional functioning. It requires an ecological outreach mechanism in the agency, a kind of liaison approach (see Hobbs, 1966; Williams, 1969). It also requires redeployment of the schools' pupil personnel service workers through problem solving teams. The CSC and Peabody's faculty of Special Education have been developing the liaison function while the Metro Schools and the Peabody School Psychology Program have been jointly developing the pupil personnel service team approach.

The PASS evaluation and dissemination strategy includes both formative and summative (presented in a subsequent section) elements and is providing (1) information for decision making regarding ongoing operation and future project activity both in Nashville at the R & D site, and more broadly through wide-scale dissemination and (2) products which will enhance dissemination efforts.

Formative evaluation involves a programming planning budgeting system (PPBS), client program monitoring devices, and utilization of the PASS advisory council. There are quite specific objectives for project children and guiding objectives for training of psychoeducational professionals. In addition to these client and professionals objectives, PASS is focusing on R & D activities related to dissemination. Planning, programming, budgeting, and formative evaluation occur

through management by these three classes of objectives. Information on progress toward objectives and specific child performance is presented to the Advisory Council to help facilitate project decision making.

PASS is a complex operating system with both knowledge and skill components; therefore, educational materials and products, as well as a comprehensive delivery system, are required to achieve eventual wide-scale dissemination. The PASS dissemination strategy is based on one of the project's co-director's (Dokecki) experiences in (1) the attempt to disseminate widely the preschool model developed at Peabody by DARCEE AND (2) the preparation of a recent report to the Secretary of HEW entitled How Can Effective Early Intervention Programs be Delivered to Potentially Retarded Children? (Stedman, Anastasiow, Dokecki, Gordon, & Parker, 1972). In light of these experiences it seems clear that a disseminable model should include products for administrators, evaluators, those offering technical assistance, psychoeducational personnel, and children and their families.

Administrators require information on program rationale, operational elements, and management, therefore, the PASS Administrative Handbook is being developed.

For evaluators a PASS Rating Scale is planned to permit measurement of the degree to which the PASS Model is operating at a given site. In effect it will be an index of program implementation which is essential for overall program evaluation and for evaluation of the success of program replication and dissemination. The scale is being modeled on the Classroom Rating Scale developed jointly by DARCEE and CEMREL Inc. for the dissemination of the DARCEE Preschool Model. Another evaluation device, the PASS Criterion Referenced Skills Test, is to be a project-oriented evaluation device that will also give useful information to teachers for design of specific programs for specific LD children.

The Stedman et al. (1972) report stressed the importance of a human presence, in the form of carefully planned and implemented technical assistance, as central to the process of effective program installation. In this regard the PASS Technical Assistance Guide is being developed to be based on the Trainer's Manual in the DARCEE program.

For teachers operating within the PASS Model the following products are being developed: (1) A Guide for Prescriptive Programming, (2) A PASS Record Keeping System, and (3) Hints for the Construction and Use of Instructional Materials.

Children in the project will, of course, experience the fruits of the program's operation through the instrumentality of the above listed products. Further, in order to supplement and buttress program gains, a Guide for PASS Parents is being developed which will include some information on home-based instructional techniques and behavior management.

The first target for dissemination is the Metropolitan Nashville Public School System. Contingent on initial project success, it is planned that the PASS Model will be implemented broadly throughout the Metro system. Further, with the passage of Tennessee Public Law 839, the Mandatory Education of the Handicapped Act, the State of Tennessee is currently helping school districts mount a mainstreaming program for handicapped children. There is a tradition in Tennessee that successful Peabody R & D efforts are incorporated into state operation. Examples include Project Re-Ed and the Regional Intervention Program. Given the current situation in Tennessee, there is every reason to believe that PASS would be offered for dissemination on a statewide basis. Beyond local and statewide efforts, dissemination is also planned on regional and national levels.

In this section we have viewed PASS at levels ranging from theoretical underpinnings through practical operational issues, formative evaluation, and finally, strategies for dissemination. Subsequent

sections present the PASS summative evaluation design, descriptions of service delivery elements, and preliminary pretest data from the summative evaluation.

The PASS Summative Evaluation Design

From the pool of Metro schools which were to implement LD programs during the 1974-75 school year, four schools were randomly assigned to the experimental group and four to the control group. (Actually a form of stratified sampling was used in order to ensure a representation of "cooperative" and "uncooperative" principals in each group.) Since each school has several LD classrooms, within each experimental school one room was randomly selected to receive the "full PASS" treatment, while the remaining rooms were designated "partial PASS." Full PASS (N=4 classrooms) entails teacher training, operation as a resource room with approximately 18 children each, and a range of parent and family services. Partial PASS rooms (N=6 classrooms) are self contained, have approximately 10 children each, participate in the parent and family services, and are potential recipients of "spin off" effects from the full PASS rooms. All the classes in the control schools (N=11 classrooms) are self-contained, have approximately 10 children each, and receive no special PASS services. Finally, 20 children are enrolled in a PASS demonstration classroom located on the Peabody campus.

The summative battery for client children (also serving a child placement function) includes: the newly revised version of the Wechsler Intelligence Scale for Children (WISC-R); the Matching Familiar Figures Test (MFFT) which assesses "conceptual tempo" or the child's relative level of impulsivity versus reflectivity; the Metropolitan Achievement Test (MAT); the Choice Motivator Scale (CMS) which measures task relevant motivational orientations; and the Piers-Harris Self Concept Scale (P-H). In addition to these instruments, two scales have been selected for completion by the children's teachers. One of these, the Re-ed School Adjustment Measure (RESAD) requests the teacher to assess the child on dimensions such as class cooperation, following directions, unsupervised on-task behavior, distractibility, and peer interaction patterns. Teachers have also completed a Behavior Problem Checklist (BPC) on each child. The BPC asks the respondent to rate the extent to which each of 58 behavioral problems characterize the child in question.

It is becoming increasingly apparent that educational interventions are inevitably family interventions, to some extent. In an effort to quantify the impact of the PASS Model Project on families of LD children, parents were asked to complete the BPC described above and were surveyed concerning family resources and stress.

Finally, the summative design includes direct observation of teacher behavior and assessment of teacher attitudes.

PASS Service Delivery Elements

This section describes the full PASS treatment as it is evolving during this first project year.

Referrals to the Metro Schools LD classes continue to occur pretty much as in the past. Children are identified by the regular teacher, recommended to the principal, and referred to the Pupil Personnel Services Team responsible for assessment. Children enter somewhat centralized schools with LD programs from feeder schools. New is an integrated effort whereby members of the PASS staff and the Pupil Personnel Services Team cooperate in the assessment. Also new is the attempt to meet the immediate concerns of the experimental schools by responding quickly to placement needs within these schools themselves, short circuiting the usual referral process and feeder school route.

In order to help reduce false-positive LD placements, hopefully by as much as 50%, the MAT, WISC-R, P-H, CMS, and MFFT are used from the summative battery. The WISC-R and MAT can be used in tandem to obtain a rough index of learning or performance relative to estimated capacity. The extent of discrepancy between performance

and capacity is used to determine the length of time spent in the PASS resource room during the normal school day. The objective is to reduce the discrepancy significantly for a major portion of the PASS children. An additional class of objectives concerns positive impact in the affective domain as indexed by the P-H, CMS, and MFFT. These objectives are being addressed through both the classroom program and through programs of parent education, offered generally to the parents in the pass schools, and family intervention, offered to the troubled and multi-problem PASS families.

The PASS experimental teachers are being trained to use a diagnostic-prescriptive approach to provide continuing in-class assessment, program implementation, and modification. This approach is largely an outgrowth of early work by Pressey (1950) and Skinner (1958) in the area of teaching machines. The programmed instruction that was the basis for these machines has been more recently advocated as an independent instructional system by Homme (1970), Mager (1962), Popham and Baker (1970), Skinner (1968), and Valett (1970).

The system PASS is developing uses diagnostic tests in several academic areas to determine the academic repertoire of each student in the LD class. Teachers use such instruments as the Key Diagnostic Math Test and the Spache Diagnostic Reading Test to create an inventory

of the current skills and deficits of the specific student. This information is then transferred to an academic profile sheet that serves as a catalogue of academic behavior.

Teachers are trained to use test results to write educational prescriptions that focus on the academic behavior deemed most appropriate to the student. Consideration is given to the current skill levels of the student and his particular style of learning. Whenever possible, the instructional prescription is also related to ongoing curricular activities that are occuring in the regular elementary school curriculum.

Each educational prescription is stated as a behavioral objective that includes the specific terminal behavior(s) expected of the student, the environment in which that behavior is to occur, the evaluation process and the performance criteria students must exceed to complete the objective successfully.

The prescription is then subjected to a front end task analysis as suggested by Valett (1970) and Thiagarajan, Semmel, and Semmel (1974). Teachers divide each prescription into its subtasks and sequence these tasks together. This sequence contains all relevant prerequisite tasks necessary to complete the terminal objective of the educational prescription. This task analysis is then reviewed to ensure that each step in the

sequence reflects the specific concepts to be taught. Wilson (1963) has suggested the necessity of this additional concept analysis to ensure that the student understands the concept behind the task and not solely the task itself.

Each subtask is then rephrased into an instructional objective that meets the same specifications as the objective for the initial educational prescription. At this point teachers gather materials for use in all aspects of the instructional sequence. These materials are evaluated in terms of their correlation to the instructional objective. Materials must also allow students the opportunity for appropriate practice. The student must have the opportunity to practice the exact response and mode of responding called for by the instructional objective.

Once material selection is complete the teacher prepares progress checks (evaluation instruments) for each task within the instructional sequence. The preparatory work in previous stages makes evaluation a relatively simple endeavor. The terminal behavior and performance criteria have been selected for each task and now become the parameters of evaluation. Teachers may simply arrange items from the instructional sequence (given they adhered to the principle of appropriate practice) as an evaluation device. In addition, various items from each subtask in the instructional sequence may be pooled to create a prescriptive test. The student's performance on this prescriptive test then illustrates

where in the instructional sequence the student should begin completing objectives. The prescriptive test prevents wasting useful learning time in teaching what the student has already mastered. It has the reciprocal effect of not forcing a student to complete objectives beyond his current ability.

Both prescriptive tests and progress checks may be utilized continually through the instructional sequence. The prescriptive test can be administered at several points within the sequence to monitor retention rate. The progress check is used at the end of each subtask to make certain the student has mastered this task before moving to the next step. Both devices are utilized to provide continuous feedback to both student and teacher on student progress. They also serve as an evaluative tool regarding the effectiveness of the instructional system.

The PASS use of the diagnostic-prescriptive approach has numerous advantages for classroom instruction. It provides more explicit student and parent understanding of teacher expectations and illustrates the evaluation procedures to be used along with the performance criteria that should be met. Instruction occurs through a set of highly sequenced intercorrelated experiences that are constantly evaluated. This reduces the likelihood of students practicing inappropriate responses (a common occurrence in many classrooms). The materials that are the medium for the educational experience have a predetermined

relevance for that experience rather than being used because they are part of the next chapter the teacher has to cover. The power of this approach lies in the assumption that when a student fails to progress it is assumed to be due to ineffective programming rather than some deficit within the child.

In PASS the diagnostic-prescriptive approach is used in combination with a contingency contracting system outlined by Homme (1970). This is a motivational system that simultaneously provides incentives for students' completion of academic tasks while incorporating a mechanism wherein students begin to take more responsibility for their own academic behavior.

Each classroom has an area in which there are a number of activities (games, toys, books, etc.) that are potentially reinforcing to a student. The teacher and student create a reinforcement menu (RM) for the student that includes specific activities the student finds desirable. The teacher then creates a contract with the student in which the student completes an academic task (usually one of the subtasks) and passes the progress check. In return this entitles the student to select an activity from the RM. The student may then move into the reinforcement area for a predetermined period of time and engage in that activity.

The first contracts between student and teacher are usually controlled by the teacher. Once the student becomes accustomed to this process then a number of transitional steps occur. The student's progress through these transitional steps eventuates in a contract where the student is responsible for selecting the academic task, selecting an activity from the RM, and determining the length of time he will engage in this activity. At this point the student has much more responsibility for his education than might be thought possible in this setting.

PASS teachers are also being trained to increase the effectiveness of their classrooms through the systematic use of learning principles. Deibert and Harmon (1970) have written an introductory text on learning and behavior principles that is the source of teachers' instruction in this area.

Unlike many training programs, PASS has not attempted a comprehensive presentation of basic principles to teachers. All too often teachers become overloaded by trying to understand reinforcement procedures while simultaneously being exposed to material on extinction, satiation, shaping, and reinforcement schedules. These subprinciples will be presented before the termination of the project, but as the theory suggests, refinements such as shaping and modeling must be shaped and modeled.

The first step is to increase the teacher's awareness of his or her own behavior and the effects of that behavior on classroom performance. The project has adapted an observational system devised by Madsen, Becker, and Thomas (1968) to create a feedback loop to teachers on their own behavior. Through regular observation the teacher may graphically view the levels of appropriate and inappropriate behavior in the classroom and their typical reactions to that behavior.

When fed back to the teacher, this information has a self-correcting effect on instructional and management behavior. The teacher, just as the students, now has a method to monitor the effects of his or her own behavior and evaluate changes in teaching style. A more expanded observational system developed at Peabody by Wood, Shores, and Jobes (1974) is being used to observe changes in quantity and quality of teachers' interactions with students prior to and subsequent to the program intervention. This system yields data on teacher responses to student behavior as well as qualitative aspects of teacher style.

Exemplary data generated by this system would include the extent teachers use direct answers, modeling, prompting, intensification of instruction, praise, criticism, reprimands and other categories of responses in the instructional program. This information provides PASS with additional data that may be used in a self-corrective feedback system for teachers. It will also be a part of the assessment of the most efficient

set of teacher strategies and interactions to be used with the diagnostic-prescriptive process.

Preliminary Pretest Data

The summative evaluation component embodies a modified pretest-posttest experimental-control group experimental design. The initial pretesting occurred during the months of October and November, 1974, and some analyses of the data were completed in time for inclusion in this report. Children enrolled in both the control and experimental classrooms (N=218) were tested. The information secured suggests some interesting characteristics about the group.

WISC-R Test Results

Results from the IWSC-R are presented in Table 1. A repeated measures single-classification analysis of variance (ANOVA) indicated that the difference between mean Verbal IQ (84.82) and Performance IQ (92.67) was statistically reliable ($F=78.22$; $p < .0002$). An ANOVA of Verbal subtest scaled scores also revealed a significant difference ($F=25.99$; $p < .0001$). A Newman-Keuls test indicated the following significant pair-wise comparisons among the five verbal subtest scaled score means ($p < .01$ for all comparisons).

Comprehension exceeded Information
Comprehension exceeded Arithmetic
Similarities exceeded Information
Similarities exceeded Arithmetic
Vocabulary exceeded Information
Vocabulary exceeded Arithmetic

Table 1

Means and Standard Deviations for Verbal, Performance,

and Full Scale IQ's, and for Subtest

Scaled Scores on the WISC-R

Description	Mean	Standard Deviation	N =
Full Scale IQ	87.12	12.27	208
Verbal IQ	84.82	12.16	208
Performance IQ	92.67	12.94	208
Information (V1)	6.60	2.69	209
Similarities (V2)	8.00	2.86	209
Arithmetic (V3)	7.18	2.17	209
Vocabulary (V4)	7.94	2.66	209
Comprehension (V5)	8.18	2.60	201
Picture Completion (P1)	9.68	2.60	208
Picture Arrangement (P2)	8.87	3.01	208
Block Design (P3)	8.64	2.85	207
Object Assembly (P4)	10.20	2.84	208
Coding (P5)	7.30	2.87	198

An ANOVA of WISC-R performance subtest scaled scores also produced a significant result ($F=42.64$; $p < .0001$). A Newman-Keuls test revealed the following significant pair-wise comparisons:

Object Assembly exceeded Coding ($p < .01$)
Object Assembly exceeded Block Design ($p < .01$)
Object Assembly exceeded Picture Arrangement ($p < .01$)

Object Assembly exceeded Picture Completion ($p < .05$)
Picture Completion exceeded Coding ($p < .01$)
Picture Completion exceeded Block Design ($p < .01$)
Picture Completion exceeded Picture Arrangement ($p < .01$)
Picture Arrangement exceeded Coding ($p < .01$)
Block Design exceeded Coding ($p < .01$)

The lowest mean subtest score obtained was for Information, while the highest mean obtained was for Object Assembly, suggesting the greatest relative deficit in the area of acquired knowledge and the greatest relative strength in spatial ability for this sample of LD children. These subtest scores will eventually be analyzed as suggested by Bannatyne (1974), where the WISC subtests are grouped into the four categories of spatial ability, verbal conceptualization, sequencing, and acquired knowledge. These adjunct analyses, however, were not completed in time to be reported here.

The prevalence and extent to which Verbal and Performance IQ's exceeded one another is presented in Table 2. These figures suggest that the children tested are having much greater difficulty performing in those areas measured by the WISC-R verbal subtests than in the areas measured by the WISC-R performance subtests.

Table 2

Number of Children Scoring Higher or Lower on Verbal or Performance Sections of the WISC-R

Number scoring higher on Performance than on Verbal	158
Number scoring higher on Verbal than on Performance	42
Number scoring same on both	8
Number scoring more than 15 points higher on Performance than on Verbal	67
Number scoring more than 15 points higher on Verbal than on Performance	10

Metropolitan Achievement Test Results

Because of the wide range of abilities (and discrepancies across various academic areas) manifested in the current LD sample, it was necessary to use two forms of the MAT. Teachers were asked to suggest whether a given child should be tested with the Primary I battery (grade level 1.5 - 2.4) or the Primary II battery (grade level 2.5 - 3.4). In all but a few cases their judgments were sound.

MAT scores were converted to normalized standard scores with a mean of 50.00 and standard deviation of 10.00. Raw scores on the Primary I were converted to standard scores utilizing an end of first grade conversion table. Thus a standard score of 50 on the Primary I would indicate performance at the grade equivalence of approximately 1.9 (end of first grade). Raw scores on the Primary II were converted to standard scores utilizing a beginning of third grade conversion table with a Primary II standard score of 50 indicating a grade equivalence of approximately 3.0 (beginning third grade). It can be seen that the same score, for example 50, is quite different depending on whether it was obtained on a Primary I or a Primary II battery.

Both the Primary I and the Primary II batteries of the MAT yield scores on Word Knowledge and on Reading, which may be combined to provide a Total Math score. The administration time for these three

subtests, however, exceeds one hour and was considered prohibitively long. Therefore, only Math Computation on the Primary II was administered, selected as the most preferable from among the alternatives. On the Primary I, however, both Math Computation and Math Concepts had to be administered in order to arrive at a convertible score. The breakdown of subtest scores that were obtained on these two batteries of the MAT is presented below:

Primary I	Primary II
(1) Word Knowledge	(1) Word Knowledge
(2) Reading	(2) Reading
(3) Total Reading	(3) Total Reading
(4) Total Math (Computation and Concepts)	(4) Math Computation

Results for the 95 children receiving the Primary I battery and for the 102 children receiving the Primary II battery are presented in Table 3.

Table 3

Means and Standard Deviations for Primary I and Primary II Metropolitan Achievement Test Results

Measure	Primary I (N=95)		Primary II (N=102)	
	Mean	SD	Mean	SD
Word Knowledge	48.17	9.52	46.79	9.17
Reading	46.00	10.12	42.86	10.20
Total Reading	47.13	9.12	44.91	8.99
Math	51.66	9.32	49.53	10.23

Repeated-measures analyses of variance were conducted for both the Primary I and the Primary II data. Both F's were significant ($F=15.94$; $p < .0001$ and $F=20.71$; $p < .0001$) for Primary I and Primary II analyses, respectively. Inspection of Table 3 reveals that on both the Primary I and the Primary II batteries, students obtained the highest mean scores on respective math subtests. Two Newman-Keuls analyses revealed that on both the Primary I and the Primary II, the means for Math (Total and Computation only, respectively) significantly exceeded each of the other three subtest means ($p < .01$ for all six pair-wise comparisons). Additionally, on the Primary I, the Word Knowledge mean score (48.17) significantly exceeded the Reading (46.00) mean score ($p < .05$). This was also the case with the Primary II subtest scores (Word Knowledge=46.79, Reading=42.86; $p < .05$).

Piers-Harris Self Concept Test Results

The Piers-Harris was administered to 206 children. Table 4 presents the overall results, and also the results when the data are classified by sex and race. The total (composite) mean self concept score (51.94) obtained by LD-classified children tested as part of the PASS Model Project was almost identical to the mean score reported for the normative group in the P-H Manual (51.84). The SDs are also similar, 12.25 and 13.87 for PASS participants and the normative group, respectively.

The P-H data were classified by race and sex and analyses of the effects of these classifications were conducted. There were no race differences or sex differences on the total self concept score or on any of the cluster scores. This failure to find either race or sex differences on self concept as measured by the P-H is consistent with findings reported in the Manual.

Table 4

Piers-Harris Self Concept Test Results for All Children, and Also by Sex and Race Classifications

	Total N = 26		Race				Sex			
			Whites N=26		Blacks N=40		Males N=157		Females N = 49	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Total	51.94	12.25	52.02	12.52	51.58	11.18	52.38	12.20	50.51	12.4
Behavior	12.08	3.65	12.16	3.66	11.75	3.66	12.10	3.59	12.02	3.8
Intellectual & School Status	11.71	3.57	11.57	3.61	12.30	3.39	11.89	3.63	11.14	3.3
Physical Appearance & Attributes	7.49	2.83	7.43	2.88	7.72	2.63	7.64	2.76	7.00	3.0
Anxiety	7.03	2.51	7.13	2.58	6.62	2.22	7.01	2.52	7.10	2.5
Popularity	7.17	2.57	7.07	2.67	7.57	2.09	7.27	2.61	6.84	2.45
Happiness & Satisfaction	6.36	1.87	6.45	1.94	6.00	1.52	6.44	1.82	6.12	2.03

Note: Cluster scores are not independent.
Note: High anxiety scores indicate low anxiety.

The P-H results are among the most interesting data collected as part of the project's pretest assessment endeavor. Mean self concept scores for this sample of LD children were almost identical to the normative group mean reported in the Manual. (The Manual also reports similar mean self concept scores for special education classes, stutterers, emotionally disturbed children, and economically disadvantaged children.) These results emphasize the need to assess the impact on self concept of moving into and out of special classroom placement. Over the remainder of this year, and next year, the PASS research design should permit assessment of the impact on self concept (as measured by the P-H) of initial LD class placement as well as "mainstreaming" of children previously in self-contained LD classes. Hopefully, useful data on the following questions may be derived from data collected during the forthcoming 18 months:

1. Do children newly placed in LD classes have self concepts similar to children who have been in self-contained classes for 12 months?

2. Do new LD placements have self concepts similar to those of students in regular classes from which they were transferred?

3. Does the self concept change after LD class placement?

4. Does "mainstreaming" LD children previously in self-contained classrooms affect self concept? If so, in which direction (on which dimensions of self concept), and (possibly) why?

Other Measures

Very briefly, it can be reported that results on the pictoral version of the CMS (N=204) yielded a mean score of 7.20 and a standard deviation of 3.16. Scores ranged from 1 to 13 on this scale. On the MFFT (N=161) the mean latency was 10.46 with a standard deviation of 5.79, while the mean number of errors was 1.20 with a standard deviation of 0.59. Mean latency scores and mean error scores were correlated -.547.

Although space limitations do not permit presentation of full details, analyses indicated that PASS Experimental and Control subjects were equated successfully on every single variable analyzed.

Summary

In summary, initial data yielded a profile of LD children as measured in the PASS project as (1) performing lower in verbal than performance skills, (2) functioning intellectually somewhat lower than the WISC-R norm, (3) possessing a relatively normal self concept, and (4) performing significantly higher in math than reading. Few generalizations can be drawn from these preliminary data, however, PASS has begun to help fill the data void described by Bryan (1974).

Through its relatively rigorous experimental design and multifaceted formative evaluation component, the PASS Model Project over the next two years promises to provide valuable insights into the situation of labeled LD children and elements of effective service delivery for them and their families.

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